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ABSTRACT

This paper reports on a study that examined skill standards pilot programs to identify lessons learned in the selection and involvement of representatives from the various stakeholder communities and the potential for sustaining the efforts of the pilot programs. Data were gathered through structured conversations with staff and committee members of nine national skill standards pilots. Some of the findings are as follows: (1) industry is the recognized leader in determining the standards; (2) it takes time to gain acceptance and use of the standards in industry and education; (3) project consortia varied in size and structure--the most successful ones had an overall governing committee and technical subcommittees; (4) curriculum materials for use in education institutions were a major focus for most pilots; (5) standards in some form were being developed by all of the projects; and (6) none of the projects would have taken place without federal seed money, and few of the projects were able to be self-sustaining. The report provides project-specific lessons for the following fields: air conditioning, heating, and refrigeration; chemical process industries; computer-aided drafting and design; electronics; electronics industries; heavy highway, construction, and environmental remediation; hospitality and tourism; human services; and metalworking. Attachments include questionnaires for project staff and committee members. (KC)

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DEVELOPING AND SUSTAINING PARTNERSHIPS: LESSONS LEARNED

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INTRODUCTION

A part of the Institute for Educational Leadership's (IEL) contract with the U.S. Department of Education provides for bridging service between the skill standards pilots and the National Skill Standards Board (NSSB). This study is a part of that bridging effort. The focus of the work has two prongs. The first is to identify lessons learned in the selection and involvement of representatives from the various stakeholder communities that must be in the voluntary partnerships recognized by the NSSB. The second prong looks at the potential for sustaining the efforts of the pilots; one of the core grant requirements for each pilots.

Study Approach

Structured conversations were undertaken with staff and members of nine skill standards pilot projects. The partnership members who were interviewed included at least one representative of each category of stakeholder which they had been required to include in their membership (i.e., employer, unions, education representatives, trade associations). It should be kept in mind that membership requirements for the pilot projects vary somewhat from those found in the NSSB legislation; for example, the pilots were not required to have representatives of community-based organizations.

The selection of the projects included in this study was informed by several factors, including: 1) the type of parent organization (e.g., professional society and/or trade organization, consortia of several organizations, and/or apprenticeship sponsor); 2) the program and fiscal sustainability strategies being employed by various pilots (e.g. certification and/or development of education related materials); and, 3) the type of standards developed by the projects (i.e., specialties, entry, "core," more than one level, or skills-based versus occupation-based).

Findings from the following projects are included in this report: human services, hospitality, air conditioning/heating and refrigeration services, heavy highway/construction and environmental remediation, computer aided design and drafting, chemical technicians, machine tooling, and two projects supporting the electronics industry.

The questions asked of project staff and members are found in Attachments A and B respectively. The lessons learned are organized around the major issues that emerged from the interviews.

GENERAL FINDINGS

Some of the widespread lessons from across the projects may appear obvious, some are positive, some showing the need for a common framework, some showing there is much to be done before skill standards become household words. One of the most positive lessons was that:

→ Industry is the recognized leader, no one questioned the central role of the industry representative in determining the standards or in setting the core strategies to promote the skill standards effort.

General challenging lessons include:

→ Industries' use of the standards remains low, there are some clear leaders using the standards within some industries, but the general response has not been overwhelming.

→ It takes time -- more than most anticipated -- for the groups to coalesce, establish priorities, develop products, and build support for certification services. This was particularly true in industry sectors where little experience of working together in the past had occurred or where experiences among the organizations has been highly competitive.

→ Educators who participated are enthusiastic supporters, but acknowledge there are substantial impediments within the education enterprise to use the standards. Better mechanisms are needed at the state level to promote integration into curricula frameworks and programs of study at the secondary and post-secondary levels and to help instructors use the materials.

→ With one exception, there was no evidence the "publicly funded "second chance" training providers were involved in developing or using the materials.

Structure and role of the partnership

The size of the partnership varied from more than 50 to around 15 with some ebb and flow in terms of exact numbers given job changes etc.

→ The organizations that appear to have the greatest capacity for obtaining consensus and buy-in from both industry and education institutions are those with long-standing reputations within the industry and training provider communities. They also need reputations as consensus builders and must have demonstrated respect for the concerns of other trade/professional associations.

→ The size of the consortia varied to some degree by the breadth of the occupational or industry cluster(s) the pilot projects was addressing. The larger the scope in terms of the breadth of the industry the more challenging the task was to keep the process moving.

→ The number of industry/professional associations involved in the sector has a significant influence on how the partnerships were structured. The partnerships that addressed the issue of managing the size of the partnership with the most ease were those that planned from the beginning a multi-tiered governing structure. These took different forms but the central feature was to have a steering committee and then various technical committees. The steering committee most often had/has top policy makers of industry associations, key unions, and "connected to the industry" education representatives. The technical committees often had "policy" responsibilities when the consortia asked committees to address a "niche" regarding the development of standards for a sub-sector within the industry.

→ The membership structure should be flexible enough to accommodate an ebb and flow of participation depending upon the tasks at hand. Time needs to be built in to educate new partners and representatives. However, a policy setting body with responsibilities to set overall direction and assume responsibility for approval of products and services is needed.

Selection and contributions of the members

National organizations, even some with very different views, are able to come together to work on standards related issues, that has been proven through these pilot efforts. Yet, organizations must be able to identify the value of participating both for their members and their own associations "business interest." This latter point is central to the sustainability issue as no project was able to move directly from reliance on federal funds to independent self-financing status.

→ Industry and professional associations played a key role in identification and selection of members; they gave the needed credibility within the business/professional community to the projects.

→ The position held by the organizational representatives are best held by individuals empowered to make decisions for their own organizations.

→ Even though associations are essential members, the partnerships that appeared to generate substantial buy-in were those that sought the participation of front-line employers and employees. They give the efforts "life."

→ Union participation requires strengthening. International union representatives are stretched thin and often find it difficult to actively participate even when asked (which was not always the case). Participation by union members as employees was fairly strong during skill validation processes in many projects but this did not allow for a policy making voice that would be considered optimal.

→ Employers and union representatives appreciated having educators participate and for several employers, this exposure has led to more active involvement with education institutions in their local communities.

→ Representatives from education, while appreciating the experience, varied in their capacity to represent anyone other than themselves. From a perspective of

the overall partnership responsibilities, many individuals' capacity to influence other education organizations is limited due to the lack of an infrastructure that allows "reporting back." For other representatives, particularly those involved in some type of program accreditation, the connecting links are more obvious.

The focus

There was considerable variation in terms of the focus of the projects. To date, only one of the nine projects has established a certification service (metalworking). However, certification is being considered, with varying levels of caution, by six more (air conditioning et.al., the two electronics organizations, heavy highway construction and environmental remediation, hospitality and tourism, and human services). Two of these certification efforts will be carried out by organizations other than the one responsible for the pilot project. The project focused on chemical technicians made an early decision not to develop a certification service though another organization is planning to develop one based on the standards established by the project.

Curriculum materials for use in education institutions was a major focus for all but one (metalworking) of the projects. Program standards, in some cases through formal accreditation entities, are being promoted.

- → Employers and workers alike need to be able to see the relationship to the workplace, even though many are changing, thus those projects that choose to first focus on the specialties and then move inward to the core competencies are the organizations having an easier time in terms of sustaining activities.
- → Standards that are additive in terms of providing for horizontal and/or vertical progression appear to be the most appreciated by employers. Entry level standards alone are not proving to be of substantial interest across many industries.
- → A "skills set" focus that crosses several industries and occupations and does not tie directly into recognized industry networks or occupations, is achievable but organizational sustainability is doubtful.
- → Acceptance of certification as an ultimate outcome received mixed reviews from industry primarily due to fears the certification would become mandatory due to government involvement.
- → Projects that choose to focus their work primarily on development of standards for use by the education system are finding some difficulty by employers in understanding how the standards can assist them in their human resource development and management decisions.

The products

The format and content of the standards varied substantially, often times generating frustration from educators. The need for marketing of materials to different audiences was underestimated by some of the projects, who to date have been the primary requestors of

information about the standards. An overarching sustainability issue for all of the projects concerns what can be sold or become a fee for service. The one project that has established a certification service, with initial subsidies from several specialty industry associations, anticipates it will be several years before the selling of services and products can generate sufficient income to be self-sustaining and this may not be possible if a substantial amount of time and effort must be devoted to working with education organizations on a state by state and institution by institution basis. The "free versus sell" strategies for products varied significantly among the nine projects and is an issue the NSSB will, no doubt, need to address at some point.

- → Obviously, the standards themselves were the primary product. Many of these were issued in stages with "content only " first circulated and later performance measures were developed.
- → All pilots identified core academic and general workplace (e.g, SCANS) requirements in some fashion plus the occupation specific requirements.
- → Several projects developed curriculum guides for use by educators and trainers. Growing in popularity are scenarios that describe "real world situations" containing multiple knowledge and skills.
- → Program standards are emerging as a key product that few initially emphasized[1].

The use of the federal monies

A total of $17,691,077 federal funds were made available for the pilots. In-kind contributions totaled $23,846,617. In most instances the in-kind contributions were time spent in meetings and in one case the professional society contributed staff time and publication cost. There is no discernable pattern regarding the relationships between the total monies used by projects and number of standards or range of products developed. This is understandable given the various starting points for the projects.

- → No project would have occurred without the federal seed monies.
- → The federal funds covered the full array of costs, including travel cost for small employers and even some larger firm representatives, depending upon company policy. Association and international union representatives were the only two groups with the wherewithal to absorb travel cost and many also contributed space and food.
- → Cost of developing standards can be reduced through experience based on estimates provided by one project. Their estimate is that it takes approximately $95-100,000 per set of standards, including the development of assessment tools.

Institutionalizing the work

The federal government wanted a return on their investment, therefore each pilot was required to develop a sustainability plan, albeit, there are no fiscal consequences for an organization not being able to follow through on such plans. Some were able to do more than others in

fulfilling this requirement, as would always be the case in any piloting effort. Some of the institutionalization issues are beyond the direct control of any particular pilot project. The actions of the NSSB to promote and sustain the efforts of the pilots is a major issue. Also, the work of the federal agencies, state governments, and, in some instances, voluntary accreditation organizations will significantly influence institutionalization.

- → Sustainability of the effort is dependent upon history and resources of the sponsoring organizations and partners. The sponsoring organizations' capacity and willingness to support the ongoing effort is directly linked to the resources that can be tapped and supplemented by income through the sales and services offered, such as certification or program accreditation. The sponsoring organizations must see the advantage to their own operation and/or its members. The history of the industry also plays a major role in the sustainability equation. For example, if the industry is predominately supported by the public sector, as is the case in human resources, public funds may be required for a longer period of time than for those industries which are primarily controlled by the private sector.
- → A highly regarded project used a "skills set" approach for standards based on a "slice" of knowledge and expertise required for multiple occupations and found in a wide range of economic sectors. However, sustainability was not possible, in large measure due the lack of finding sponsoring organizations within the various industries and professional organizations to keep the effort going.
- → Individual businesses must see what is in it for them and all of the pilots are well aware of this central reality. Yet, the business and employee representatives interviewed recognized the value the standards have for preparing new workers (i.e., the utility for educators and potential workers) but with the exception of those interviewed where certification was coming on line the "internal firm" value was hard to discern. Most recognized that "success stories " from industry leaders will sell the voluntary standards within the business community and more time is required for these to emerge. Most projects are still in the "faith" period, where they have yet to develop proof that standards influence productivity or profitability.
- → Widespread adoption within education institutions is highly dependent upon the education/workforce development agendas of state government and most particularly how the states have organized their occupational clusters within the school-to-work and vocational education programs. The pilots are finding the necessity of going state by state and in some cases local school district by local school district costly and inefficient.
- → Education-based networks need to be supported and/or developed. The representatives of education and training organizations have limited outlets for influencing their counterpart institutions. A broad range of interrelated efforts are required to effectively and efficiently infuse the standards into the education enterprise. States need to be involved in a substantive way but this alone is not sufficient. Education specialists (e.g., those responsible for apprenticeship training, and occupational specialties) need to participate in networks. These

networks must include support for promoting distance learning and assessment opportunities.

→ Modifying curriculum is not costly for curriculum specialists familiar with competency based materials, the time required to incorporate the materials was within the normal range of curriculum review and upgrading work. Standards are being used to promote articulation agreements and refined programs of study between secondary and post-secondary education institutions in states that are using standards as a part of the Tech Prep and STW reform agendas.

→ Program quality assurance is being influenced by standards as they are being used to influence role of program approval/accreditation in several arenas and the NSSB would be well served to learn more about these efforts.

→ The staff are the glue, they need support regarding techniques on building coalitions, how to access multiple sources of labor market information, conducting legally defensible validation of skills, assessments options, how to work with educational institutions, and marketing, etc. They are also the point persons that members of the partnerships will rely upon for any cross-industry-sector work. These project staff are "emerging new occupations;" no one has all of the knowledge or experience needed to make all of the pieces fit together. Network support was valued by the staffs of the partnerships.

→ The tax status of an organization is of critical importance. If the implementation strategies of the NSSB are built upon the assumption that new organizations will be required to maintain the effort after federal funds are withdrawn then attention must be given to developing a case for consideration by the Internal Revenue Service to grant these organizations non-profit status. The major example of this issue can be found in the establishment of the National Institute for Metalworking Standards.

Relationship to the proposed NSSB economic sectors

The focus of the survey question regarding the role of NSSB centered on lessons the pilots learned and the potential implications for partnerships within the 16 economic sectors. There were several key lessons on this topic but a variety of other issues emerged that are reported here.

→ The overriding concern, strongly expressed, was the questioning of the wisdom to allow only one partnership per economic sector. There was serious doubt that it would be possible to develop one body that could have hope of sustaining itself after federal funds were withdrawn, or even doing the work while federal funds were available. Additionally, there were questions raised about how to keep people engaged in such broad-based groups.

→ There was a clear recognition that structured mechanisms are needed for partnerships within each sector to coordinate their work. Most believed this would end up being a staff function since their experience suggests that key members of their partnerships are busy people and would not be willing participants. Furthermore, a substantial amount of the work to translate the

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core academic and workplace basic into useful material for educators (the prime consumers of this type of information) are technical in nature and require specialized expertise to develop.

→ The experience of these pilots counsels that standards are best built from the specialties inward to the core competencies as this approach eliminates guess work. However, they were not clear about the use of terminology. Several projects believed they were developing core standards materials but were unsure of the proposed NSSB dividing lines between core, concentration, and specialty.

→ There is a strong appreciation of the need for some common operating rules and nomenclature. Several mentioned the desire to have a cross-walk capacity with O*NET and recognize the need for having a system of relational data bases. There was a general recognition there is a need to have some common ways to communicate with education providers particularly as it relates to academic and general workplace skills.

→ The standards of eight out of the nine projects in the study cross more than one of the economic sectors. However, the "skills set" pilot project most directly raises a flag that needs attention. There will be common technical skill sets across sectors and occupations in addition to academic basics and workplace readiness skills. Processes for multiple partnerships across sectors to work together in aligning such skills will need to be developed, including access to relational data bases noted earlier.

→ The business representatives interviewed were not particularly concerned about the NSSB framework or endorsement. However, those interviewed that could be called "believers" that a national voluntary skill standard system is desirable, were concerned about the probability that their standards could never be recognized by the NSSB and that the timing of any recognition of any standards was "too far off." Several proposed interim endorsement criteria and/or levels of endorsement as an appropriate solution to build the national voluntary system on the work that they and others have already undertaken.

→ There was a call for leadership from the NSSB to develop mechanisms to work with the states and education institutions. Also several mentioned the need for major marketing initiatives to be Board driven.

These general findings, while not covering all of the twenty two projects we believe are fairly representatives of all of the projects. The project specific lessons follow.

PROJECT SPECIFIC LESSONS

Air Conditioning, Heating and Refrigeration

Background

The project was administered by the Vocational-Technical Education Consortium of States (V-TECS), Southern Association of Colleges and School. V-TECS is a consortium of state agencies responsible for administering the programs in the Perkins Vocational and Applied Technology Act. It provides business and industry validated competency-based vocational technical outcome standards, curriculum resources, and assessment vehicles. They received $606,140 from the Department of Education and spent slightly more in non-federal support. V-TECs was asked to apply by one of the associations in this industry because that association wanted standards but realized that no one association in the industry had the standing that would bring all the organizations together. V-TECS was considered a neutral organization with experience in job and task analysis. As part of its proposal to the Department of Education, V-TECS committed to forming an industry coalition.

The industry has three distinct parts -- manufacturers, contractors/installers, and companies who service the equipment. In addition, the industry is further divided into commercial and residential work. Finding skilled technicians was cited as a problem throughout the industry. Technicians receive their training in variety of ways, most notably in career or technical colleges or apprenticeship programs. Also several of the major manufacturers run training programs for staff of installers and service providers specifically for their equipment. At the start of the project, V-TECS found 140 organizations involved with this industry. The industry was described by one association as "very fractious and contentious."

In a matrix format, the standards show the occupation-specific knowledge, core skills, occupation-specific skills, and workplace behaviors that a technician working in residential or commercial and in a specific area such as heat pumps, heating, refrigeration, air conditioning, etc.

Staff remained constant with the project until after the standards were published. But some of the difficulty the group had in coalescing was attributed to the lack of consensus building skills of the staff assigned to the project.

Structure and role of the partnership. Initially in its proposal, V-TECs was to have a policy committee to act on technical issues. Once the project started, they changed that to a policy committee that advised on policy direction and context of the industry. The policy advisory committee ended up with 16 representatives of the various segments of the industry, education and union representation. It also had several representatives of businesses directly on the project. Education was represented by an individual from the Career Colleges Association and some of its members, the National Association of State Directors of Vocational and Technical Education, and a representative of the Vocational Industrial Clubs of America (VICA). The policy committee included several individuals who are or had been

front-line workers. It also had a representative of the United Association of Journeyman and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada. The project then also had technical groups in various locations to assist in the development of the standards and to point out regional differences in the type of equipment used in the industry.

Selection and contributions of the members. V-TECS identified the various associations and businesses that were involved in the industry and then consulted with the union representative and association representatives about which ones to include from the various sectors of the industry. Most sent individuals who worked with training. The technical groups were identified by members of the policy advisory committee and the policy committee reviewed the work of the technical groups.

The focus. The first focus of this project became the development of a coalition among a diverse industry. Some reported that it took a year to bring the committee together and some interviewed said the group never coalesced. The time was attributed to organizations' differing expectations and focus. The diversity and varying interest of the different parts of the industry failed to yield a clarity regarding the primary purpose of the standards. (e.g., to help build programs of study in schools or promote the development of certification services.)

The use of the federal monies. The public dollars paid for basic research, development and dissemination. Meeting costs were donated. Most members of the committee paid their own travel to the meetings.

The products. The project developed standards for heating, air conditioning and refrigeration technicians. Original plans of the project called for the development of an assessment but given the initial time used to put the coalition together, there was no time for that activity and nor was it a collective interest of the committee.

Institutionalizing the work. There are several forms of institutionalization occurring, albeit in a somewhat scattered fashion. V-TECS will use the standards in its ongoing work with state. This means the standards are shared with all member states and then states adapt the standards materials for their own purposes, such as developing curriculum and instructional materials. It is not involved in efforts to build on the standards with assessments and certifications. They believe it is appropriate for the associations to take the lead on development of a certification service. There are two certification efforts emerging in the industry. A number of manufacturers, as the V-TECS project was unfolding, started to explore the need to expand their product training by creating a common certification system. The common business interest is to solve the problem of equipment being returned when the problems could have been solved by technicians. Several of theses associations were exposed the Automotive Service Excellence (ASE) certification model through participation in the V-TECS managed project. Through this exposure, a North American Technical Excellence consortium is being established similar to the ASE efforts. To start, certification will be offered in five different areas such as heat pumps, air conditioning, etc. and three different levels -- installer, service, and senior technicians. Another association is planning to "go it

alone" and establish a certification system. Neither effort is exclusively using the work completed by skill standards pilot project.

Another effort is being undertaken by a single association which has been in the business of training and education. They have used the standards in the development of curricula. They also would like to see states and localities that issue licenses use the standards as a basis of licensure. However, the organization is not sure who is responsible for getting the standards information to states and ensuring that the information is used.

Relationship to the proposed NSSB economic sectors. While fractious, these associations do see themselves as an industry. They understand the relationship among the various sectors and their reliance on each other in order to provide services to the public. However, under the NSSB proposal, the industry would likely be split into several economic sectors. The industry would be left trying to align several different sets of core and concentration knowledge and standards. Different core knowledge could lead, for example, to manufacturers developing equipment that technicians do not have the knowledge to install. Overall business to the publics they serve would suffer.

Lessons learned

- → The responsibility of the partnership committees includes identifying and reaching out to appropriate industry representatives as well as the development of standards. It is not enough to have the right industry associations involved. They also need to see or agree on a business purpose for their involvement in order to ensure that once standards are developed they will be used in a common approach of assessment and certification.
- → Consensus building skills are as important in staffing of the effort as are the technical skills of validating and standards writing. However, the history of the industry would have made it difficult for any staff. Given the lack of a natural leader for this type of effort among the trade associations suggests warning bells should have been ringing from the beginning.
- → Judging the institutionalization results need to await to see if this pilot project was a step alone the way for the industry to ultimately establish a ASE type model certification system. Also if states use the materials in the development of quality programs then at some point in time the two major institutionalization efforts may yet merge.

Chemical Process Industries

Background

The American Chemical Society (ACS), a professional body of long standing, has the lead responsibly for the skill standards project. The project was allocated $1,098,310 in federal funds with slightly more than half from matching funds.

The project focused on specialty occupations: entry level chemical laboratory technicians and process technicians. The primary purpose for the standards is to improve the education and training of individuals for these two changing occupations. These standards could be viewed as learning standards which incorporate performance expectations.

Rapid changes within the industry are due to a variety of factors, but two key trends are that the technician is becoming increasingly important, and that the traditional hierarchical occupational classification of technicians as non-exempt workers requiring high levels of supervision is waning.

The ACS is in the business of helping to establish institutions and services needed by the individuals involved with chemistry, both in the business community and educational institutions. The staff of the project has been with ACS for some time working within the Society's membership divisions and with other organizations involved in the chemical industry.

Structure and role of the partnership. The project had two committees, a coordinating and steering committee. The coordinating committee focused on the tasks of the day-to-day work. The steering committee was the place where endorsement and blessing was sought and received.

Selection and contributions of members. The chair of the steering committee was the CEO of a major firm within the industry, nominated by one of the key partner organizations, the Chemical Manufacturers Association (CMA). Representatives from individual firms far outnumbered any other stakeholder group and they were drawn from a variety of divisions within the firms (e.g, human resources, research, production management and several technicians). Collaborating organizations included the American Petroleum Institute (API), CMA, and specialty chemical groups such as pulp and paper and synthetic organic manufacturing. Representatives of ACS's own organizational units such as the Division of Chemical Technicians, one of the fastest growing units within the Society, were also represented by the leadership of this division. The internal networks of the Society and its partner organizations were essential in providing the credibility to the project.

Educators were drawn from community colleges, private training companies, internal firm training directors, and the American Society of Training and Development. ACS's networks were used to select these individuals. For example, the ACS sponsors annual conferences for community colleges including supporting the publication of a specialized newsletter and a

member was drawn from that network. Union representation came from the International Chemical Workers Union, which recently merged with United Commercial and Food Workers.

The contributions of the members and the two committees followed the original design. Because ACS has been actively engaged with the key stakeholder organizations and knew the issues, they did not have any substantial "coalescing" challenges. The representatives from the firms drove the selection of the occupations and validation of the standards. Union representatives became most heavily involved during the validation process.

The focus. The original proposal noted that a key focus of the pilot project was to address pre-employment education issues and this remained central to the work. The standards are essentially geared towards post-high school education, specifically for a two-year associate degree.

A substantial amount of discussion ensued regarding what standards are and what should be included in the standards. For example, the union representative wanted a section on uniform workers' rights within the standards document. Such a section did not become a part of the final document but the representative from the union thought the forum and the process was a fair one to air such issues.

There was a deep suspicion on the part of many firms that standards would become mandated and could have legal implications for hiring purposes. This concern influenced the decision not to pursue the development of a certification service.

Though it was always intended to establish standards for two occupations, the steering committee members reversed the order of emphasis to respond to changes within the workplace for process technicians; there are twice as many process technicians as there are laboratory technicians and the position is growing in expectation of responsibility.

The use of the federal monies. The most important use was the staffing and site cost for meetings and some expenses for the validation process. They had to pay site cost for about half the meetings in hotels. Travel costs were picked up for the educators and about one-third of the business representatives. The support for industrial members depended on constraints of company policy. The ACS donated the time of the director and communication costs. Many organizations contributed the time of their personnel.

The products. The core products are the standards and instructional building materials, geared for the community college level. The materials include contextual examples that can be adapted by individual firms and/or education institutions to guide assessment. There are also facilitation services for local Alliances discussed below.

Institutionalizing the work. There are several forms of institutionalization occurring. ACS will continue to update the standards, probably by reviewing the standards every two years. A

standing committee of ACS will be responsible for this work, though the effort will be considerably more modest due to resource constraints. Within ACS, the standards are helping to address the issue of who can even be a member of the Society. Nomination criteria has always placed great emphasis on formal degrees, but the reality of the workplace has shown that a reliance solely upon education degrees lacks merit. The Division of Chemical Technicians within ACS's membership is actively using the standards to help its members focus on the contributions of the technician within the workplace as well as to help frame the Division's work. ACS is using the material in their continuing education services and promotional activities, such as National Chemistry Week.

Another major internal ACS use of the standards is for education program approval (accrediting). The standards aid the accreditation process by helping to turn the review into a competency based approach/facilitation process for a college's chemical technology program of study. They have six accredited schools with 40 plus in the pipeline.

Within individual firms, the standards have been used in labor negotiations as the basis for determining the training objectives of current workers. Some firms have provided the feed-back that the standards help improve the collaboration between management and unions. Other firms have used the standards in their internal training efforts as well as the restructuring of human resource classifications. One interviewee thought that if the standards materials were re-packaged they could more easily be used by individuals responsible for hiring. In short, from his viewpoint, as presented, they are too education focused.

One interviewee noted that the key issue regarding definition of a technician has to date been whether he or she is in an exempt or non-exempt position. The standards alone will not resolve this debate but will clearly inform the discussion. This observation came from an individual who is disappointed that his own employer has not chosen to use the standards as of yet. This is a place where substantial "right sizing," including some layoffs has occurred.

ACS's primary institutionalization strategy is via a network of local Alliances. These Alliances, in the early stages of work and model development, are partially supported by a grant from NSSB. The general thrust is that one or more chemical companies agree to take the lead in establishing an Alliance(s) with schools in the region in order to promote the improvement of pre-employment and continuing education for the industry. The intent is to use the national standards as the initial checklist and add what needs to be done locally. The additional standards may focus on the type of sub-sector that exist. For example, in the Gulf Coast region of Texas, the emphasis is on the needs of petroleum industry. The Texas Gulf Coast Region Alliance has 67 members, covering a 13 county region, with 77 school systems and 19 community colleges

Another local Alliance is in Southwestern Pennsylvania, with some firms in the pharmaceutical sector. Employers in this Alliance are using the standards materials to influence the School-to-Work activities throughout the region. They have taken the material further by dividing the standards into three categories: one for core high school materials,

another for community college course work and the third for on-the-job training. Company representatives are learning that standards alone do not solve the education reform agenda but they are essential. These companies are now spending more time with school board members to help them understand the implications of not using standards. Many companies are providing externships for teachers as a way to help them understand the implications of the new requirements for the workplace. There is a recognition on the part of ACS staff that it may be necessary to provide more guidance to the Alliances, in part, to help the employers work with the wide range of education institutions.

The staff of the project recently learned that the American Institute of Chemists has developed a certification service for the chemical laboratory technician based upon the standards developed by the project. This organization currently provides certification for chemists.

Relationship to the proposed NSSB economic sector. Strong doubt was expressed that organizations or companies will care much about the broad-based certification. If there is to be any certification valued and supported by the chemical companies, the focus would be on specialties. However, the need to work across several sectors to establish common standards was clearly recognized: for example maintenance technicians or the new occupation, mecontronics, would need to include parts of the mechanical construction industry.

An observation was made that much of the cross-cutting work could be achieved by the NSSB supporting a process whereby designated staff would be expected to come together to work on issues of common concern.

Lessons learned

- → Tapping into long-established professional organizations within an industry that has working relationships with several key industry associations can generate both legitimacy and magnify the chances for sustainability.
- → Involvement amongst industry associations, at least initially, needs to focus on the "gaps" in services and products among these key organizations.
- → There is a need to build better mechanisms to assist educators in learning how to blend the academic and applied/contextual learning requirements inherent in skill standards. This is highly visible in the world of chemistry that has been a major academic field for over 100 years but the focus has been on the symbolic side and not enough on the physical/application side.
- → Even though curriculum standards may be geared towards post-high school level, it is essential to address the earlier levels of education in order for post-high school education to be effective.
- → In order for the standards to "take hold," a major amount of attention to changing teacher preparation is required.
- → The use of the standards in the workplace to assist in hiring, promoting, and training needs to be packaged and marketed in a different manner than is geared towards education institutions.

Computer Aided Drafting and Design

Background

This project did not develop standards for an occupation but developed a skill set that can be used in a number of different ones. It developed standards for computer aided drafting and design (CADD), a technology that is used in a number of disciplines, industries, and occupations.

The grant was issued to the Foundation for Industrial Modernization (FIM), the non-profit research and education partner of the National Coalition for Advanced Manufacturing (NCFAM). FIM and NCFAM have merged using the parent organization name, with the mission to provide research and educational services to the industrial modernization community in an effort to strengthen the American industrial base and global economic competitiveness. The project received $1,096,683 from the Department of Education and spent $1,416,717 in non federal dollars.

The standards developed represent skills that are core to all CADD disciplines and generic to all software and was meant for entry level. CADD is used in architectural, engineering, construction, GIS/Mapping, electrical/engineering, and mechanical occupations. While the standards are considered core for all CADD users in several industries, the skills will be found in concentration or specialties levels, given the current definitions of the National Skill Standards Board.

The staff's skill in organization and facilitation was cited as a positive factor in the partnership's success. That staff has since left the organization, coupled with the changes in personnel and companies involved in CADD, made it difficult to collect the information required for this paper.

Structure and role of the partnership. The project had both an executive committee and a technical committee. The executive committee set direction and policy. It included representatives from various companies that either develop CADD software or use it and deans at community colleges. While it had one individual who was identified as an employee representative on the executive committee, when contacted, he said his involvement in the project was minimal. The technical committee were CADD specialists at companies or CADD instructors in colleges. The executive committee membership changed only when people left because of changes in job duties. In the technical committee, local people were added when the meetings were held in different locations around the country. While the functions of the two committees did not change, the executive committee was more active in the beginning of the project. Also as the project progressed, it relied less on face-to-face meetings and more on communicating through fax and e-mail.

Selection and contributions of the members. The executive committee was chosen by the parent organization, NCFAM. The committee, along with project staff, identified technical committee members. The project wanted very much to stay industry based and industry

directed and thinks it did so. The technical committee, composed of users from very different disciplines developed the standards, while the executive committee was responsible for identifying the skills that were common among a number of disciplines. The technical committee actually wrote the skill standards.

The focus. The focus of this project was on developing entry level core skills for a technology that is used in a variety of disciplines and industries. It successfully developed a structure that gathered information from the various disciplines and generate quality products but it was unable to devise a sustainment strategy.

The use of the federal monies. The project used public dollars for staff and overhead of the organization and the cost of meetings and communications. It paid the travel costs of public sector individuals such as the education representatives to executive and technical committees. Federal dollars were identified as being most helpful for communications among committee members whether it occurs face-to-face in meetings or electronically.

The products. The project produced the skill standards for computer aided drafting and design that could be used in a variety of industries. The standards were described as useful by both education and business, but there was a worry that given the nature of this technology that the standards soon could be outdated. They also developed a measurability supplement of technical skills further broken out to include evaluation criteria and objectives. The project was to develop a national voluntary test but did not because no market could be identified for the test.

Institutionalizing the work. NCFAM continues to distribute the standards and answer questions about them but currently has no plans to develop further products. Staff believes the project would be further along if the NSSB had a structure to support and promote skill standards. Several of the educational members of the committees have developed curricula based on the standards but there is no national effort to distribute that curricula.

Relationship to the proposed NSSB economic clusters. CADD as a technology probably can be found in all 16 economic sectors. Individuals whose primary task involves CADD may be in something less than 16 economic sectors but there is no way of determining that.

Lessons learned

- → Organizing partnerships around a set of skills without addressing the range of skills required for the affected occupations generates an ownership gap that impedes the probability of a partnership being able to sustain itself.
- → Sustainability requires an infrastructure surrounding the standards, i.e. professional or industry associations, companies whose primary business is related to the standards or majors in postsecondary institutions.
- → The CADD project provides evidence that common critical work functions can be identified across a large number of sectors and occupations but suggests that this is probably not the place to begin. This implies that processes will need to

be established, regardless of the number of voluntary partnerships, to create common validation efforts for related skill sets that cross sectors and occupations.

Electronics

Background

This project is one of two involved in electronics, the other being the Electronics Industries Foundation which was funded by the U.S. Department of Education. The American Electronics Association (AEA), an industry association representing 2,700 high tech companies, received $1,062,364 from the Department of Labor. The non-federal dollars spent were $4,150,500. While the electronics industry has some very large companies, the majority of the companies are small and most of the industry is non-unionized.

AEA developed standards for manufacturing specialist, manufacturing team leader, pre/post sales, and administrative/information service support. The standards include information related to core, concentration, and specialty skills, depending on the definition established by the National Skill Standards Board. The project staff, who received high praise from those involved, has remained constant through the start of the project.

Structure and role of the partnership. AEA developed a workforce skills committee because it was a requirement of its grant from the Department of Labor. It was a large committee with over 50 members. Most of the committee represented companies in the high tech field, but the committee also included several representatives of community colleges, a representative of Johns Hopkins University that has been intimately involved in SCANS skills, and individuals from an education reform project, the New Standards Project. The committee also included individuals from related associations and organizations such as the Electronic Industries Association and Foundation (the other electronics skill standards project), the National Association of Manufacturers, and the American Society for Training and Development. After the project started, a steering committee was created to provide faster response to the project and to avoid an overload of meetings. The steering committee gave project staff a means to gather reaction to their work from a few core people. After the draft standards were published early in the project, the workforce skills committee overtime shifted from assisting in the research effort to being potential customers of the products developed. The committee did have turnover because of job changes, but AEA viewed that as an opportunity to build its customer base for its products.

Selection and contributions of the members. Members were identified by industry leaders. AEA relied on its local councils to suggest small business to include. The community college involved was identified through its ongoing relationship with the local AEA council. Selection was through AEA networks and reputation of member companies. The workforce skills committee built support for the project and later advised on product development for the new Center. The steering committee provided guidance to the staff on the work. Members of

both committee recruited companies, educational institutions and workers to participate in the development of the standards.

Some said the committees needed more front-line workers. The only front-line worker who participated on the larger committee and the steering committee was identified when he participated in one of the focus groups as part of the skill standards process. Other front-line workers were invited by AEA to participate in the committees but were unable to attend. They were part of the skills development and validation process.

The focus. The standards developed by AEA are those that would be met by a "fully competent" worker. It also focused on high performance throughout the project. The project identified 16 practices of high performance and asked those participating in the validation of skills about their practices in their company. They did find differences in the validation between high performance organizations and others. In each of the occupations, certain activities were rated more important in high performance companies than those who were not. Most of these activities could be classified as SCANS-type skills such as managing resources or communications.

The use of the federal monies. Public dollars were used for in all parts of the standards development. According to the staff, AEA would have never done this work without public dollars. AEA hired excellent technical advisors who assisted in the development of the standards and other material with the public dollars. The public resource leveraged resources in AEA and the industry that never would have been used for this purpose.

The products. The standards were developed by through functional analysis method using panels of expert workers and supervisors around the country. AEA first published draft standards for the occupations, in part as a marketing technique and then later validated the material. They have also developed targeted marketing materials for different stakeholders on how to use the standards for their particular purposes (e.g., employers, educators).

Institutionalizing the work. AEA has created the Center for Workforce Excellence, a nonprofit organization, to supply companies with data, research, tools, and strategies for improving workforce performance. The Center's work builds on the standards developed. It is working on assessment strategies. It has developed self-help publications around skill standards such as how to assess organizations training needs using the standards and figuring out what skills they need. Standards and the list of knowledge and skills have been placed on the Center's web site. The standards serve as the basis of workshops and seminars offered by the Center on a number of topics.

The standards are being used by the community college on the committee. But none of the companies reported using the standards, although the standards have been favorably received by companies and front-line workers. Companies reported different reasons for not using the standards depending on size. The standards validated practices already in place in the large

company and the smaller company was waiting to see what happened in the rest of the industry

Relationship to the proposed NSSB economic clusters. The occupations that AEA developed standards for could be used in a number of different economic sectors. Also, AEA is an industry association with companies in several different economic clusters. In some of the economic sectors there are several associations which compete for members. That competition might stand in the way of working together in the development of core, concentration and even specialty standards.

Lessons learned

- → The creation of a large advisory committee became a hinderance without clarity of purpose and means to generate timely response from key stakeholders.
- → Even if the industry is non-unionized, it has to identify and include front-line workers in all committee structures.
- → Staff with a vision about the outcome and leadership was comforting to and appreciated by those involved.
- → The standards setting effort was always tied to the parent organization which promoted the parent organization's commitment to the effort.
- → The occupations developed are important to the electronics industry but also can be found in other economic sectors; therefore processes must be developed to reconcile standards among various economic sectors.
- → A high performance workplace can be defined and standards measured against them. However, companies may exhibit only some characteristics of a high performance workplace. The same standards can be used both by organizations with characteristics of high performance and those without.

Electronics Industries

Background

Electronics Industries Foundation (EIF), the not-for-profit foundation of the Electronics Industries Association, is one of two electronics pilot projects; the other being the American Electronics Association which was funded by the U.S. Department of Labor. EIF received $1,091,233 from the U.S. Department of Education. An equal amount of non-federal dollars were contributed to the project. The Electronic Industries Association (EIA), an industry association representing companies, has an active volunteer and committee structure.

The standards for entry-level electronics technician were developed as a result of collecting information from technicians who work in general electronics, avionics, business machine service, consumer products, biomedicine, microcomputer systems, industrial electronics, instrumentation, telecommunications, and automotive service. The skill sets from each were examined to identify those common to all or most of these specialties. These common skills formed the working draft of the skill standards which were then validated against actual

workplace performance. They could be considered concentration or specialized standards, depending on the definitions finally adopted by the National Skill Standards Board.

The standards describe the duties and tasks, desirable behaviors and work habits, technical skills, test equipment and tool skills, basic and practical skills and additional skills for any general work-ready entry level technician. The standards documents does recognize that in each specialty there are additional task, behaviors, skills, equipments, etc, that a technician must know and do, although the specifics not presented in the standards.

Staff was with the project throughout its life.

Structure and role of the partnership. EIF had several different kinds of committees with different purposes. The Executive Advisory Board was to gain support from the industry and provide oversight. While it included industry representatives, it also had representatives of allied organizations, labor, and education. The project also had ad hoc groups which identified skill requirements in specialty areas -- general electronics, avionics, business machine service, consumer product service, biomedicine, microcomputer systems, microcomputer field service, industrial electronics, instrumentation, telecommunications, and automobile service. The management team, consisting of representatives of EIF, the National Association of State Directors of Vocational Technical Education Consortium, and the International Association of Machinists and Aerospace Workers, provided guidance on the organization and management of project and assisted in finding people for the technical and ad hoc committees. The technical committee of industry and education representatives reviewed and commented on materials developed and approaches used.

Selection and contributions of the members. The project staff received names from a variety of sources and then contacted them about participating in the project. Project staff was especially appreciative of having the interplay of education and industry on the committee and having different kinds of companies on the committees. The union representative was chosen because he was recommended by known union representatives from a previous unrelated project. Industry and education representatives on the various committees arranged meetings of the ad hoc groups and found companies and individuals to participate in the validation of the standards.

Committee members interviewed said they wanted more front-line workers to have been involved in the work of the committees. While the committee structure stayed the same throughout the life of the contract, there was turnover and changes in participation due to job changes and people were added if they expressed an interest in the project and the project staff thought they had something to offer. EIF found that it had to spend time educating new representatives. As the project progressed, EIF used telephone and mail to accomplish some of the committees' tasks.

The focus. The standards were developed because of the rising need for technicians in the future. Instead of focusing on technicians in each specialty area, the project developed the

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cross-cutting duties and tasks, skills, behaviors, work habits, etc. required. The standards were designed to indicate to educators what was needed to prepare individuals for a career as an electronics technician and the standards include estimates of the time needed to train students to meet the standards. The project did not, however, develop curricula-related material as part of the project. During the life of the project, discussions on assessment were begun but unresolved. A pilot program for accreditation of training programs was initiated in conjunction with the Vocational Education Department of the State of Georgia and initial steps have been taken towards development of a test to certify individuals as work-ready electronics technicians. The implementation of this test is pending approval by the EIF Board of Governors.

The use of the federal monies. Public dollars paid the salaries of project staff, travel dollars of education representatives to meetings, mailings, and subcontracts. For instance, the project subcontracted with others to do the international comparison. Public dollars are especially useful for requirements that were part of the grant that EIF would not have undertaken otherwise. For example, the grant required an examination of standards being used in other countries. EIF would not have undertaken that examination if it had not been a grant requirement.

The products. The project developed standards for entry level technicians who can work in a number of specialty areas. Later measurement criteria for the skill standards were developed and issued.

Institutionalizing the work. The project continues to be housed at EIF, with part-time staff devoted to it. It currently has no committees in operation. It has contracted with a private testing and certification organization to develop a test question file for possible certification. While that group is doing the work, EIF is surveying the industry to assess interest and pricing for the certification. Financial support for this effort may come in the long-term from certification. There are others in the industry administering a certification program and EIF has throughout the life of the project worked with those organizations in resolving issues around multiple certifications. In at least one state the standards were used to revise curriculum; none of the industry representative indicated that the standards were being used in their companies, in general because of economic conditions which has led to no new hiring or layoffs or there is no history of training workers within the company. All interviewed agreed that industry must support the effort and see the value of the work done to date. Some said the work would become institutionalized when vocational education developed curriculum from the standards. Others wanted the federal government to provide financial support to committees that would update and maintain the skill standards. There was general recognition that it was helpful to have the support of an industry association during this period while decisions about the future work were being made. Without the support of EIA, the future possibilities could not be weighed.

Relationship to the proposed NSSB economic clusters. It was suggested that the only way to determine commonalities among the various industries/occupations in one economic cluster

is to start with the specifics of each occupation and then move to the general. One place to start is to identify occupations that have common knowledge such as physics or use the same technologies. If various industries are to work together under one economic sector, they need processes to use to cross sectors. Differing partnerships would need sufficient time to learn about each other, such as the differences in language before proceeding to the identification of occupations; validations of skills required; comparable performance measures; assessments of skills; etc.

Lessons learned

- → Changes in the industry and natural job shifts change the personnel involved in the project committee structure. Time is needed for continual educating of members.
- → Without being housed at an industry association, it would be difficult to support the project while next steps are determined.
- → The development of standards requires starting with specific tasks and duties across several settings and then identifying common core knowledge and skills.
- → Processes to recognize technical skills common to several sectors will need to be established.

Heavy Highway/Construction and Environmental Remediation

Background

This project of is one of two pilots involved in the construction sector (the other is electrical) and one of three with a substantial background in apprenticeship training programs (in addition to the two construction trade projects the metalworking coalition has members with long experience in apprenticeship programs).

The Laborers-Associated General Contractors (AGC) Training Fund project is still in the process of developing materials. Their original contract was for $761,055, a 50-50 match of funding. Standards for four occupations have been developed: 1) pipelaying work; 2) concrete work; 3) lead remediation; and, 4) petro-chemical remediation. The standards are in a scenario-based format followed by items associated with it: performance criteria, necessary workplace skills, knowledge and aptitudes, and relevant tasks from a master tasks list. These are specialty standards.

The Laborers' Union is the managing organization for the project. There were no questions asked regarding the quality of the staff in this study; however, each of the members made the unsolicited observation that they were very impressed with the quality of the process and were highly complimentary of the staff and the core consultants.

Structure and role of the partnership. The partnership is made up of two coalitions; one focused on the environmental clean up and the other on highway construction. The core membership has been kept small (20) with the membership overlap between the two coalitions

resting with the staff representative of AGC who technically represents both union and non-union members, and the non-apprenticeship related education representatives. The key role of the coalition was to select the occupations, help find employers and employees to participate in the validation of skills, make decisions regarding the form of the standards, determine the use of the standards (e.g., for development of curriculum and assessments), and provide advice about how to sustain the effort after federal funds are withdrawn.

Selection and contributions of members. The coalition focused first on obtaining a mix of union and non-union employers; the blending was not easy but all who were interviewed noted that it worked. The AGC and other associations were helpful in the nomination of members. Additionally, when particular expertise was needed, the coalition tapped individual contractors and specialty associations, such as those focused on construction manufacturing products, thus sometimes swelling their ranks. This niche strategy worked well as the "experts" saw how they fit in and did not feel excluded by not becoming a full fledged member of the coalition governing body.

The education representatives were selected to ensure a range of providers and expertise. These included a vocational education researcher, apprenticeship directors, a representative of state-based vocational education, and a representative of a four-year college. However, they found that for individuals who do not "carry a portfolio" of representing a constituency assuming an infiltration into the ranks of educators is problematic. Also, for those who do represent a network, the need to stay connected must be addressed (e.g. they had an early vacancy from a vocational education organization when the individual left the position and no one replaced her). A representative of the U.S. Army agreed to participate but never was able to attend.

The focus. The original plan was to have the whole coalition identify the common core requirements of the occupations and later develop the occupation specific requirements. They ran into immediate trouble and realized they had to start with the specialties requirements first. Everyone agreed it would be only a best guess to first define the core requirements because they could be made too easy or too hard. By doing the specialties first, they were then able to go back and identify the core academic requirements and attributes required for the occupations. Additionally, the employers and union representatives wanted to see the specialties as soon as possible, since they represent the tangibles of the workplace.

The use of the federal monies. The federal dollars were essential as a way to involve the front-line employers and worker. The employers who participated were mostly small firms without the access to corporate funds for activities such as those the coalition is focusing upon. The front-line workers, who played a substantial role in the writing of the scenarios, simply would not have been able to participate without the federal monies. Another key use of the federal funds was for consultant services to help with the validation process and in the development of assessments. (The Laborers-AGC have had the expertise to develop the assessments and curriculum for occupation specific materials but constructing assessments for across industry groupings required assistance).

The products. The standards are the top product to date. The strategy for developing scenarios was to build an education product into the standards themselves. This approach provides applied learning opportunities as well as techniques for assessment.

The coalition expects to develop certification services but not before 1997-98, and this is optimistic, because of traditions within the industry -- the wheels of the industry turn slowly. The reasons for this are varied. Within the industry, architects and engineers are key advocates of certification, but workers are not overly excited about certification unless they know it will result in a higher paycheck. Employers are not opposed to certification and originally this was what brought the group together. However, as they began to explore the issue, the "burden" of licensure emerged. Employers do not want another hoop to go through that may end up as a requirement; there is a mistrust of government.

Institutionalizing the work. Within Laborers-AGC, the first step in the plan to institutionalize was to have a resolution through the union to establish a skill standards system; this has been accomplished. They will now promote an internal initiative to tap into collectively bargained Laborers' and AGC training trust funds. The employers, who pay into the trust funds, feel that this contribution constitutes their fair share for activities such as this. However, they will have to compete for the use of these funds and it is not anticipated they will be able to maintain the same level of work as was possible with the federal funds. For example, less funds for as meetings would be available to validate the standards. This raises a concern because they found it so valuable to have both front-line employers and employees participation; they are unsure of the full implications of the reduced funding.

The project made a clear decision they will not charge for standards or assessments. The key reason is that the industry already is burdened with licensure cost for many of their occupations. The associations contributed time and in some cases travel monies and there was no indication that hard cash would be forthcoming beyond this.

Promotion through industry associations may be muted. AGC, the largest employer-based group in the industry, and a member of the core group, will probably not actively market the products of the endeavor even though they were very impressed with the quality of the products and the process used to develop the standards. AGC has a long tradition of supporting the work of the sub-sector organizations to develop standards and training material and they view this effort as a part of that tradition. This is due in part to the segmentation of the construction industry and the split between the organizations that are union shops and those that are not; a balancing act is required. Also AGC has a standing agreement with the Oklahoma Department of Education to generate the pre-employment training materials for the core trades of which about 90 percent focuses on carpentry and masonry. Many of their members are now working with a recently established National Center for Construction in Education and Research for the non-union employers and the particular specialties this project addressed are not a priority for that group.

Representatives from the occupation specific training institutions (community colleges and apprenticeship training centers) are using the materials to alter curriculum, and believe it is some of the best they have ever used. One of the members of the coalition is using the material in distance learning correspondence courses, yet he observed that better mechanisms were needed to reach out to instructors across several institutions and states. There was a frustration expressed about how hard it is to get instructors to use curriculum that they did not developed. Experience, thus far, with secondary educators has been somewhat frustrating. The identified cause is that applied learning does not have as much standing with educators as they believe it deserves.

Relationship to the proposed NSSB economic sector. There is serious doubt as to the merit of proposed NSSB plan to only recognize one partnership per sector. The observation was made that no matter what NSSB does, the traditions within the AFL-CIO and construction industry mean it is unlikely that the whole sector will come together under one partnership because it is not linked to the structure of the industry. For partnerships to work, members must see a direct correlation to their daily life. These observations were independently made by employer trade association and union representatives.

The employer and trade association representatives did not believe there would be much interest in a "basic certification" for them, it is the specialties that are the issue--finding the specialized worker remains the key issue for the industry.

There is a sense, however, that it would be possible and useful to develop common core requirements across the industry based on the information gleaned from the specialty groups. An opinion was offered that the type of knowledge and skills to identify core knowledge and skills requires specialized expertise and these tasks should be considered more of a "staff" job working in concert with educators.

In order for the products to become infused in the industry and the education system(s), heavy marketing is required. While they can work within the industry there is a strong sense that NSSB must take the lead to market standards and should do it with the 22 projects as the base.

Lessons learned

- → The development of standards is best done by starting with the specialties and working inward to identify the core academic and cross-functional knowledge and skill requirements.
- → The history and traditions of industry sectors cannot be ignored when structuring partnership criteria.
- → Everyone interviewed believed the two-armed structure worked well.
- → The role of the associations are important for buy-in, setting directions and contacts, but the work of validating standards requires more "front-line" employers and employees than had been fully appreciated at the outset.

- → Sufficient resources need to be allocated for bringing in employers and workers. It cannot be assumed that small employers can afford to pay for travel and out of pocket expenses.
- → The network of specialty associations that participated were essential to the process. They provided access to employers and employees and many will assist in the marketing and did not object to not being formal members of the coalition.
- → Business and association representatives thought having educators on the coalition was a real plus. However, it was recognized that the type of expertise needed from representatives of the education community and their "connections" back into a network of educators beyond their own institution could have been better.
- → The development of curriculum and instructional materials (including distance learning programs) based upon the standards is not a high cost item and is easy to do. The larger problem is reaching and engaging the individual instructors who have responsibility for working with students.
- → The development of portable credentials will come, but the licensure overlaps must eventually be tackled and NSSB will need to provide some leadership in this arena.
- → The NSSB has a critical marketing role to play along with the other responsibilities of establishing a framework.

Hospitality and Tourism

Background

The Hospitality and Tourism Skills Board, managed by CHRIE is the only one of the 22 national pilot projects that covered entirely one of the economic sectors proposed by the National Skill Standards Board. The Council on Hotel, Restaurant and Institutional Education (CHRIE) received $999,775 from the U.S. Department of Labor. Almost double that amount of non-federal support was spent by the project. CHRIE' mission is the enhancement of professionalism at all levels of the hospitality and tourism industry. Its members include educational institutions that offer degrees and certificates in this field, as well as industry professional involved in recruiting, training and human resources development, major corporations and allied associations and organizations.

The industry is large. The food, lodging, recreation and travel-related services industries employs more than 10 million workers or about one in twelve workers and is expected to grow by almost 25 percent by the year 2005. The industry has many associations and a number of them provide certification in specialty positions. The size of the industry and the numerous associations provided challenges to this project even at the start. Before start of the project, various associations were meeting as a convocation around a variety of issues. It was through the convocation that it was resolved which association would manage the grant. CHRIE was chosen because it was considered the most neutral of organizations. Two

associations who provide education and training and certification were originally given subcontracts to complete certain portions of work as part of the project, however some of that work needed to be re-done.

While the original grant called for skill standards for two positions, the project's board identified eight positions to develop standards. The positions are all front-line workers in two different segments, food service and lodging. They developed standards for four food service occupations server, cashier, host/hostess, and busser and four lodging occupations front desk clerk, bellperson, concierge, and reservationist. These positions cover 50 percent of the jobs available in the industry. Most, but not all, of these positions are considered entry-level positions in the industry. These specialty standards describe specific task areas for each position and describe competencies required in a"snapshot" of the position. The project developed the specialty positions with a clear understanding that they needed this information in order to later build core and concentration skills.

Staff responsibilities shifted as some staff left project as the standards were being published however the individual now responsible for the project has been there for some time.

Structure and role of the partnership. The Hospitality and Tourism Skills Board (HTSB) was developed to meet the requirements of the grant. It contained representatives of various related associations as well as education and union representation. The partnership was to both build credibility, ownership, and commitment of the project in the industry and to provide oversight to the skill standards setting process.

Members felt that they had the right mix but it caused "pain" because members came from different perspectives and had different motivation for being at table. Consensus was aided by a chair with strong facilitation skills. However, drop off in attendance at meetings was reported as the project went along; but it is not clear if this was because of additional travel costs when the project was extended by the Department of Labor, lack of interest, or some other reason. The project later created a smaller steering committee consisting of several key industry associations, a representative from a business, the union, and Johns Hopkins University to guide the project.

Selection and contributions of the members. A project committee of various associations, including CHRIE, provided names of individuals to place on the hospitality skill standards board. Members of the board were chosen by representatives of several of the key associations and staff at CHRIE. The industry representatives on the board represented businesses and industry associations and sometimes their related educational arms. The education representatives included the National Association of State Directors of Vocational Technical Education, a high school, a community college, and Johns Hopkins University. The individual form Johns Hopkins was the director of the SCANS Commission and continues to work on this issue from his position at Johns Hopkins. The board also had a union representative who staff said was helpful in mitigating natural union-industry tensions that

exist. The union involved represents both lodging and food workers. The board had no front-line workers on it.

The Board was to gain industry input and gain support of the project in the industry. CHRIE found that most individuals didn't have much time for building support of the industry and project staff had to assume a larger role for this activity. The staff developed newsletters, made presentations, collected names, etc.themselves in order to reach out to the industry. While the board did not have much turnover, in some instances they did have a number of different representatives from the same organization attending meetings which required time spent on educating the individuals. A smaller steering committee was created in 1993 to provide consistency and involvement.

The focus. From the beginning, the industry representatives wanted to capture the core skills of the front-line positions. Thus, the project spent little time considering other options such as whether to examine existing specialty positions in the industry to find core or concentrated skills, which has been one of the aims of the project.

The sheer numbers of workers in the positions for which standards were being developed required the project to use an extensive and rigorous process in the development of standards. For each of the occupations they had to develop a task list and survey instrument which was sent to 10,000 front-line workers. Because response was less than desired, they also conducted nonrespondent survey. They are now refining and streamlining the methodology originally used for any future activities.

The use of the federal monies. Public dollars paid for everything. Industry match was in-kind for time and travel of board members and in some cases donation of meeting space and refreshments.

The products. The major product has been the standards for the eight positions. The standards are being sold. Private dollars were only recently raised to bridge the time between the end of the DOL grant and the beginning of a cooperative agreement with the National Skill Standards Board. Under this cooperative agreement, CHRIE is working with other projects involved in the service sector to develop a core service certificate by crosswalking the skills among three skill standards demonstration projects. CHRIE is also working on an evaluation guidelines for education and training providers and a refined methodology.

Institutionalizing the work. A new Hospitality and Tourism Skill Board has been established. The new board does not have the number of educational representatives and representatives of individual businesses that were on the previous board but does include some members of the previous board. The ten members of the new Board include a representative of one of the businesses, the union, Johns Hopkins University, and various industry associations and their educational foundations. The industry associations represented on the new board are both large broad-based organizations such as the Hotel and Motel

Association and the Restaurant Association and smaller specialty groups such as the Club Managers and the Culinary Federation. This group will determine the future direction for this industry.

Plans include spinning off this project from CHRIE and becoming a 501(c)(3) foundation which would endorse skill standards and education and training material developed by others in and for the industry. CHRIE believes that approval of their standards by the NSSB would be helpful in institutionalizing their work. CHRIE has had discussions with related industry associations about developing standards for them.

The standards are primarily being used by educators. One company reported using the standards to benchmark their existing training material and found high correlation. The union representative was looking for certification as the end product of this project, but certification remains an open question because the positions for which standards were developed are front-line jobs, subject to high turnover. However, input to date from industry representatives involved in a core service certificate pilot are encouraging. In addition there remains the question of the role of existing associations that already are involved in education and certification.

Relationship to the proposed NSSB economic clusters. It was suggested that each partnership use a centralized approach/format/taxonomy such as O*NET. This project has come to learn the need for a singular format because it has begun work on a core service certificate with other projects and has had problems finding the common skills because of format and language. It was also suggested that future occupations identified by partnerships should be based on number of persons in the occupation or industry needs such as difficult to fill.

Under the NSSB's scheme, hospitality and tourism is its own sector. However, the diversity and largeness of this industry presented challenges to the project. CHRIE has shown that it is not easy to find core or concentration skills without developing or having a great many specialty certificates.

Lessons

- → The breadth of the industry generated substantial challenges for organizing the pilot's work. Industry representatives, while supporting the concept of skill standards, had difficulty in establishing solid working relationships within the overall organizational structure.
- → In the above circumstances, one committee may not be able to take on both policy/commitment and oversight. Having large numbers on the partnership body slows the process and leads to alternate governance possibilities such as smaller steering committees empowered to make decisions.
- → However, with a smaller group involved, support and commitment are harder to garner.

→ In an industry with preexisting specialty certifications, it may make sense to develop standards for positions that are either entry-level positions or subject to turnover. But certification for those occupations may not make business and financial sense to the industry. If a position is low-paying or subject to turnover, such as busser, neither an individual or a business is likely to pay the fees required for certification. This may change if busser, for example, was part of a clear career path to a higher paying specialty position

Human Services

Background
The Human Services project focused on entry-and mid-level occupations (e.g. case managers, job coaches, and residential support staff). The classification of the standards is open to interpretation. Several individuals interviewed used the term core/entry when describing them. Others may call them concentration or even specialty standards.

The project is a consortia of organizations managed by the Human Services Research Institute (HSRI) for a partnership of 14 organizations. The total federal support was $1,088,612. HSRI sub-contacted with the Education Development Center for design and support work. They also provided sub-contracts to some organizations who participated in the partnership for specific services, such as soliciting workers and managing validation of skills sessions.

The human services industry is growing and changing. The primary employers have been state and local governments and non-profit organizations that have contracts with government. These types of employers traditionally, have not required credentials. Only recently has the for-profit sector become involved in this industry, predominately within the managed care and provider alliances for mental health and health care services. Many of the for-profit organizations are more accustomed to requiring credentials.

HSRI is a well established research, policy analysis, and evaluation organization and has worked with most of the national membership organizations that participated in the project. It had not been previously involved in either standards development or use. HSRI is not a membership organization but is recognized as a trusted intermediary organization with a reputation and philosophy about collaboration and consumer empowerment.

There was a staff change made during the project and the current director inherited some distrust issues that had to be overcome.

Structure and role of the partnership. The intent was for the committee to be both thinkers and doers. The consortia was called a technical committee. The intended role of the partnership was for individuals from large national constituency based organizations to represent the needs of their members at the table and then, in a structured way, communicate with their membership regarding the work of the standard setting body. The technical

committee had the responsibility for selecting the occupations to be addressed, approving the design, and the standards.

Selection and contributions of members. All the members were drawn from the ranks of national organizations with varying missions. One of the common characteristic is they are all overextended financially. Some only have volunteers and the others do not have large staffs. Some are advocacy focused, others are professional societies, some represent the specialty education providers, two represented more general vocational education and community colleges organizations, several have been and/or are in the business of setting standards and issuing credentials.

There were no for-profit employers. There was one union representative from the headquarters of an International Union but this individual also had the responsibility for working with the health care standards group and, given the composition of their membership and interests, less attention was given to the human services standards. There were some initial critical gaps in the ranks of the membership but the new director added child welfare and substance abuse experts.

The most active members came from the ranks of education based organizations who have been developing national program accreditation services, primarily for associate degree programs at community colleges. They are engaged in working with individuals and employers involved in community-based human services programs. The organizations that support program accreditation and certifications for specialty workers (such as child welfare service workers, alcohol and drug addiction or youth development) were supportive but clearly less engaged. Some of the participants were not in key decision making positions within their own organization, making it difficult to connect with the constituencies.

The focus. The technical committee choose to focus on entry/core skills of community-based human service providers. From the beginning, some members expressed a concern regarding the focus on community service workers and not on those working in institutional settings. Others could not find the connecting links between what they were doing to improve the quality of providers in such areas as substance abuse, child welfare, youth development and the work within this project. There was substantial reluctance to address the development of a certification system in part because several of the organizations were already offering such services and they were never able to connect the relationship between what was being undertaken in the skill standards project with their work.

The use of the federal monies. They needed the money for all the activities including supporting the staff. Because the industry is essentially within the public sector there will always be the need for government funding to support its own infrastructure. The in-kind contribution of the project was time spent in meeting; travel and other cost were borne by the project.

The products. The standards documents are the primary products of the project. Additionally, there is a computerized resource guide being developed from materials collected from project participants. An instructor's guide on how to use skills standards for use from elementary through post-secondary and training programs. A cross-walk has been developed that identifies the relationships between the standards and the Council for Standards in Human Services Education. A technical report outlining the results of four pilot projects who tested the standards has also been developed.

Institutionalizing the work. A lead organization, charged with the continuation of the work begun under the federal grant does not exist. However, there are two strands of institutionalization work underway. The first is being undertaken by organizations which have human service education and accreditation as their mission. They are finding the standards to be of high value in the program approval process by now focusing on the competencies and outcomes expected of students. They have also been able to update and improve common curriculum in many community colleges. There appears to be substantial evidence that they are penetrating the market.

The other form of institutionalization underway is the emergence of the National Alliance for Direct Service Workers. The members hope to address a range of workforce development issues. Representatives of the organizations concerned about mental retardation took the lead to organize the Alliance and most of the organizations which participated on the technical committee of the skill standards project are involved. There are a substantial number of direct service workers and consumers representatives within the Alliance.

There is general agreement that the Alliance would not exist without the skill standards project; the pilot project provided a jump start for this effort. This forum's goal is to establish national credentials. (The national technical group was reluctant to so.) This forum is operating on a shoe string right now and the staff of the skill standards project has been asked to help raise funds for the effort.

The Department of Mental Health of Missouri has adopted the standards for direct services workers and the state is very interested in movement of a nationally recognized certificate based upon the standards. The state sees the efforts of the Alliance as a potential opportunity to promote the development of quality workforce.

Relationship to the proposed NSSB economic sector. The overarching observation is that it would be a real stretch for one partnership to reflect the needs of the industry of both the health and human services. The emerging Alliance, while broader than the technical group involved in the project, is faced with challenges just in terms of depth and breadth of the issues they want to tackle and is still focusing on a limited part of the human services sector. The sense is that a partnership for all of human services and health would diffuse interest without building capacity. There are some overlaps between heath and human services that cannot be ignored (current NSSB projects are addressing some of these issues), but there are several ways the overlaps can be addressed without limiting the number of partnerships.

The project did attempt to identify what they considered the core requirements, but found stakeholders to be unclear about how to gather the core without first addressing the differences and the changes occurring in the specific occupations.

A question was posed regarding what the quality indicators would be for a partnership as broadly based as that being proposed by the board.

Lessons Learned

- → The range of clients needing support from the industry (e.g., young, old, healthy or unhealthy, substance abusers, in-school or out of school, involved with the criminal or protective services justice systems, residential/non-residential) can be viewed as connected but different silos. More time should have been spent working with the leadership of the specialty organizations first to make more connections between these silos.
- → More in-depth occupational analysis about career paths that exist in the field and a better understanding of the demographics of the current workforce would have been useful.
- → Those involved in the daily delivery of human services were much more engaged (about half) with the others-- serving and caring--were not really engaged. When workers were involved it became more exciting; they gave life to the project!
- → More time should have been spent on developing curriculum materials.
- → There was an underestimation of the cost of printing and generating a quality product.

Metalworking (The National Institute for Metalworking Skills)

Background

The Department of Labor grant was given to the National Tooling and Machining Association (NTMA) for the total amount of $1,367,300 with $632,300 provided by the federal government. NTMA is a large trade association that acted as the convener of a consortium of associations.

Standards are focused on occupation specific specialties and have three levels. Level I is considered the core requirements for the industry as a whole and anyone interested in certification must be able to pass Level I certificate tests (a combination of written and performance testing.) Beyond that core, further specializations address the needs of sub-sectors within the industry. There are additional standards at level II and III for metalforming stamping, metal forming spinning and metalforming roll forming, metal forming press brake, machine tool building and screw machining.

The industry is one that has traditionally used apprenticeship style training as a core method of workforce development. However, with the rapid changes in technology and considerable

downsizing within the industry, many of the apprenticeship programs had fallen by the wayside. The industry now is in a growth period and finding skilled workers is more challenging. The age of the skilled workers is high, so retirements are also pushing the industry to recruit younger workers.

The project had a slow start and it was almost a year before a common agreement regarding the direction occurred. NTMA's initial thrust was centered on upgrading its training materials for its job training programs and the formal apprenticeship program it sponsored. New staff were hired and the partnership shifted its focus to the development of validated skill standards that would be valued by the whole industry.

Structure and role of the partnership. The original partnership was predominately representatives of associations (five trade groups, the International Association of Machinists, the AFL-CIO, and the Council of Great Lakes Governors.) They added members as the project matured. They found that a key missing ingredient were individuals from companies and education representatives with responsibilities for some type of direct line services.

The key roles of the partnership were to establish a framework for organizing the standards, setting process, nominating business representatives, and acting as the lead agents within states or regions of a state to develop pilot projects and approve the standards.

This pilot project, as a part of its grant work, was the only one that determined it to be necessary to establish a new organization in order to continue its work. It sought and received, after substantial and difficult negotiations with the Internal Revenue Service, status as a non-profit organization. The reason for seeking the non-profit status was a central requirement to assure a sustained effort. Through this non-profit status, it is possible for both associations and individual firms to make tax deductible contributions. The new organization is called the National Institute for Metalworking Standards (NIMS).

The structure of NIMS includes one seat for metalworking trade associations who contribute to the organization; they have kept the original groups and have added three more since incorporation and more have indicated interest. These trade associations also nominate business representatives. They have now added state workforce development representatives from states where the industry is strong and NIMS is working with education officials to implement the standards state-wide.

The committee structure includes one sub-committee each for standards, credentialling, policy and promotion, and an executive committee. However, the policy decisions regarding standards and credentialling are not voted upon at the sub-committee level, but are considered by the full board.

Selection and contributions of members. As noted earlier, the original representatives were drawn from the ranks of associations. However, the skill validation processes and developing the buy-in from businesses for certification led the group to recognize that more involvement

of the direct consumers is essential. Adding a mix of small and large business representatives was an important step in generating the willingness to establish a new organization by the associations.

Identifying the education and workforce development representatives was enhanced by a link with the Council of Great Lakes Governors. This connection has been helpful in getting attention from key state officials in several of the mid-west states where the industry is concentrated. The education members are valued by business representatives but there were concerns expressed about the capacity of educational delegates to reach into a range of institutions to spread the word to similar organizations. Organized labor did not play an active role, but they were supportive.

There is a recognition that NIMS must have a presence beyond the mid-west, but that it was a good launch-pad for the effort to concentrate there.

The focus. Originally, three of the associations, the National Tool and Machining Association, Precision Metalforming Association and the Association for Manufacturing Technology, were the strongest advocates for focusing on standards which would lead to certification. The challenge was to find a mechanism to tie the different parts of the industry together. One consultant developed a framework that could be used for the whole industry. This framework was informed by a review of international competitors within the industry, most specifically Germany. The tiered structure and a process which allows for sub-specializations became the mechanism for coalescing the group. The decision to promote certification through a third party then became the means for centering the work after the general framework was agreed upon.

The use of the federal monies. The federal funds were used for staff, consultants, and skill validation. There was a learning curve of about 15 months that "ate up some of the funds" without generating a standard. They are now finding it is less costly to develop standards. The cost are now down to around $93,000 to develop standards and the accompanying assessment materials. That figure is further broken down to about $30-35,000 to write the standards, $10,000 to validate the standards through a DACUM process and about $2,000 to conduct a national survey of incumbent workers and front-line supervisors to further validate the standards.

The products. The standards, testing and certification programs, and study guides for the certification are the core products. They place a substantial emphasis on the concept of portability in the standards -- they must mean the same thing across all boundaries. The primary tool to promote portability is the certification of the workers and the issuance of the certificate by NIMS. The individual must first past a performance based assessment either in the workplace or a school site. The proctors for assessment completed at the worksite are drawn from the ranks of educators, for assessments completed at the school site the proctors are from industry. Only after passing the performance test are individuals allowed to apply for the written exam.

A program certification service also has been established for training and education institutions. Several firms as well as education institutions have asked for designation under this service.

An initial decision was made not to develop education materials (e.g. curriculum standards); however, as institutionalization of the effort moves forward, staff is being asked to address the issue of core curriculum materials. NIMS is working with a high school in Michigan to develop curriculum which NIMS will share with other states and schools.

Institutionalizing the work. The very creation of NIMS contracts with several states to help establish metalworking programs in the schools and companies not only adopting the standards but seeking to be recognized as a "certifying shop" suggest that institutionalization has already become a reality. The hope is that as certification becomes more widespread the necessary funds to sustain the organization will be realized.

However, much remains to be done. The development of assessment instruments has been slower than anyone has wanted, substantial re-work was required on tests developed for machining. One of the more challenging issues is how to establish an efficient and effective working relationship with the multiple education actors within and across states. They are finding out how little logic exists in terms of defining and developing programs of study that cross institutional lines. The articulation process between different levels of educational institutions, most specifically with four year institutions, is a growing concern. Several of firms are using the standards as a tool to inform community colleges, from whom they do most of their recruitment, that they expect students to emerge from the programs with at least a Level I set of skills.

The education representatives on the NIMS board are finding multiple uses for the standards. One of the groups, Focus Hope, has been able to incorporate the standards into their work, which includes Advanced Technology centers and a network of education institutions. It was not a costly or time consuming effort to do this. It is predominately a matter of "belief" that standards is the right approach to help their clients, most of whom are minorities and/or females. Focus Hope views standards as a way to push the curve of obsolescence of people -- the way to respond civil rights concerns. The state of Michigan has found them to be the "glue" for articulation agreements, development of curriculum frameworks, and useful technical tools for teachers in high schools as well as post-secondary institutions. Michigan was able to contribute substantial School-to-Work resources to the effort. The Lake Michigan Community College, another active education participant, is also linked with several community colleges across a bi-state area and this consortia uses standards as a key tie binding their work. However, the project is finding that in many states the education institutions and education policy makers are not as willing to use networks of institutions to help develop and promote industry-driven standards as a way to establish common programs of study.

The acceptance by the industry is reflected not just in their fiscal support for NIMS but the associations are all actively promoting standards through their publications, trade shows, and conferences. One member of the board became involved when they read about the Ohio project in a trade association magazine. His involvement has led his business to become highly involved with schools in his area.

There was a consistent "eagerness" on the part of all that were interviewed about the moving the certification into high gear. A key business representative observed that he would like to see standards become a part of the unions' agenda for collective bargain agreements! His logic is that this will help force some of the companies who complain about lack of qualified people to finally invest in their own workers. It was his observation that business can not afford to view training as an expense but as an investment.

Relationship to the proposed NSSB economic sector. A deep concern was expressed about the idea of having only one partnership per economic sector. Several issues were identified. For example, small metal working shops will be more than a little uneasy about the large coalition; they do not want to feel "outnumbered and outgunned." The context matters greatly. Another example was given about quality control, with a question being raised as to whether any employer would consider the quality control knowledge of a chemical technician being the same as quality control requirements for metal working.

However, there was support for a common language (that meshes with 0*NET) and a process for working across partnerships for common occupations and other cross-cutting efforts. There has been some discussion among the metalworking sector is that a solution would be to ignore the NSSB.

Lessons learned

- → Mix of individuals must include a substantial representation of small and large businesses.
- → Trade associations must see the "value-added" for their own members.
- → Common expressions of the standards, in this case through Levels, which show progression and specialization both is understood and valued by all the stakeholders.
- → Certification that has been tested across several types of institutions and a certification process that includes these institutions promotes trust and buy-in.
- → Having the non-profit status for the parent organization has substantial long-term value for promoting constant updating and expansion of services.
- → There continues to be a need to sort out the working relationships between all levels of education institutions and national standard setting bodies.

ATTACHMENT A
PARTNERSHIP
QUESTIONS
for
Project Staff

1. What did you want from the committee initially? How did their functions change over the life of the partnership? How did it change schedule, structure and membership? What did they do first? How did you get them to coalesce?

2. What did you use the public dollars for? For what functions (e.g., staffing, skill validation, meeting cost, assessment development, marketing) were public resources most essential?

3. How were members selected? Which institutional/network relationships of the members proved to be most useful over the life of the project and why? Which ones were of marginal value, in terms of helping to institutionalize the skill standards effort?

4. What are the plans for institutionalizing the work of your partnership? Who, and how was it decided, has the organizational lead to continue the work of the grant? What are the top three products and/or services of the organization charged with continuation of the work?

5. Based on your experience, how would you ensure that several partnerships under a broad economic sector (clusters) proposed by the National Skill Standards Board would coordinate:

the identification of occupations;
validations of skills required;
comparable performance measures;
assessments of skills to be broadly recognized within the economic sector; and
communications with education and training providers?

6. Suggestions of individuals to interview? Individuals who did not serve on the committee throughout the entire life? Representatives of national organizations? Business? Education? Employees/Union? Other? We need telephone numbers and addresses for each.

ATTACHMENT B

PARTNERSHIP PAPER
QUESTIONS
for
Members of Project Committee

1.How was/is your participation relevant to the organization you represented?

2.How is the organization using the products of that effort? Which products specifically are you using or promoting? What has been the response within your organization/network to the products? Are they the right products overtime to meet the needs of your constituency? If not, whose needs do they meet?

3. What resources did your organization contribute to the effort? Time? Dollars? Other? Do you think these are appropriate long term contributions of your organization? If not, which ones do you think should be "picked up" by others? Who is that other (e.g., a national organization you represented)?

4. What lessons did you learn concerning what you would think is the appropriate mix of individuals or institutions on a national voluntary partnership body?

5. What do you think it would take to sustain the effort begun under the pilot project and how do you think it can be supported financially?

If they are a member of a national organization

6. What is the likelihood of your organization's participation in partnerships to be created by the National Skill Standards Board?

7. What kind of support from the partnership or the Board would be needed for your participation?

8. How would you choose a representative from your group?

1. Two pilot projects not covered in this particular study, the National Automotive Technicians Foundation (NATEF) and the American Welding Society (AWS), have long been engaged in promoting program standards linked to skill standards for quality assurance purposes. NATEF is the only standards based program that is currently in use in all fifty states.

2. ACS's committee structure allowed the opportunity for more actual workers for which standards were being developed than any of the other groups in this study.